Non-Prompt ν Generator Check

Bruce Baller

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Status

- Modified MC input file to decouple ν_μ, ν_e, ν_τ ratios from Prompt/Non-Prompt μ ratio
  - Ratio 1 now defines the Prompt ratio 48%, 48%, 5%
  - Mixing fraction = Prompt fraction (used to be NP)
  - Prompt ratios are corrected to account for mixing fraction in usruin
- Code is not released yet

Status

- Improved muon reconstruction in sfdcanal
  - Muon tracking efficiency better in data than MC
  - Improvements help but still inadequate
  - Assume 100% muon tracking efficiency in MC
    - Use ntrumu_in_mid to count number of true muons
    - MID plane efficiency not accounted for, but small??
- Still hunting a MC reconstruction problem
  - A track reconstructed in the MC has a slightly different momentum than the track processed by myanal

Data/MC comparison

- Generated 5k MC events in Period 4 with Prompt fraction = 50% (npcheck_05.ps)
  - Data (878 events) & MC events normalized to 100
  - Momentum > 100 GeV = 100 GeV
- Page 1 - Muon momentum: Prompt fraction appears too high
- Page 2 – EMCal energy: Looks OK
- Fraction of CCμ to not CCμ looks OK
- Roughly consistent with Patrick's thesis